

IN THE CLAIMS

Claim 1 (currently amended). A pressure-sensitive adhesive comprising the product of the catalytic reaction of:

- a) at least one aliphatic or alicyclic polyisocyanate having a functionality of less than or equal to three,
- b) a combination of at least one polypropylene glycol diol and at least one polypropylene glycol triol,

the ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component being less than 10;

the ratio of the number of isocyanate groups to the total number of hydroxyl groups being between 0.8 and 1.15,

the catalyst for the reaction consisting of or comprising a bismuth carboxylate or bismuth carboxylate derivative, and

~~the diols and triols alternatively being selected and combined in each case as follows:~~

- ~~—— the diols having a molecular weight of less than or equal to 1000 are combined with and the triols whose having a molecular weight is greater than or equal to 1000,~~
- ~~—— diols having a molecular weight of greater than 1000 are combined with triols whose molecular weight is less than 1000.~~

Claim 2 (previously presented). Pressure-sensitive adhesive according to Claim 1, wherein said at least one aliphatic or alicyclic polyisocyanates are diisocyanates.

Claim 3 (previously presented). Pressure-sensitive adhesive according to Claim 1 wherein said polyisocyanate is selected from the group consisting of butane 1,4-diisocyanate, tetramethoxybutane 1,4-diisocyanate, hexane 1,6-diisocyanate, ethylene diisocyanate, 2,2,4-trimethylhexamethylene diisocyanate, ethylethylene diisocyanate, dicyclohexylmethane diisocyanate, 1,4-diisocyanatocyclohexane, 1,3-diisocyanatocyclohexane, 1,2-diisocyanatocyclohexane, 1,3-diisocyanatocyclopentane, 1,2-diisocyanatocyclopentane, 1,2-diisocyanatocyclobutane, 1-isocyanatomethyl-3-isocyanato-1,5,5-trimethylcyclohexane (isophorone diisocyanate), 1-methyl-2,4-diisocyanato-cyclohexane, 1,6-

diisocyanato-2,2,4-trimethylhexane, 1,6-diisocyanato-2,4,4-trimethylhexane, 5-isocyanato-1-(2-isocyanatoethyl-1-yl)-1,3,3-trimethylcyclohexane, 5-isocyanato-1-(3-isocyanatoprop-1-yl)-1,3,3-trimethylcyclohexane, 5-isocyanato-1-(4-isocyanatobut-1-yl)-1,3,3-trimethylcyclohexane, 1-isocyanato-2-(3-isocyanatoprop-1-yl)cyclohexane, 1-isocyanato-2-(2-isocyanatoethyl-1-yl)cyclohexane, 2-heptyl-3,4-bis(9-isocyanatononyl)-1-pentylcyclohexane, norbornane diisocyanatomethyl, chlorinated aliphatic or alicyclic diisocyanates, brominated aliphatic or alicyclic diisocyanates, sulphur-containing aliphatic or alicyclic diisocyanates, phosphorus-containing aliphatic or alicyclic diisocyanate and derivatives thereof.

Claim 4 (previously presented). Pressure-sensitive adhesive according to claim 1, wherein at least one of said polypropylene glycols has originated from a DMC catalyzed preparation process.

Claim 5 (previously presented). Pressure-sensitive adhesive according to claim 1, wherein said at least one polypropylene glycol triol is prepared by DMC catalysis.

Claim 6 (previously presented). Pressure-sensitive adhesive according to claim 1, further comprising formulating ingredients selected from the group consisting of catalysts, ageing inhibitors (antioxidants), light stabilizers, UV absorbers and rheological additives.

Claim 7 (previously presented). Process for preparing the pressure-sensitive adhesive of claim 1, comprising

- a) charging a first vessel (A) with a premixed polypropylene glycol component comprising a combination of at least one polypropylene glycol diol and at least one polypropylene glycol triol and charging a second vessel (B) with an isocyanate component comprising at least one aliphatic or alicyclic polyisocyanate having a functionality of less than or equal to three, optionally also charging said first or second vessel, or both of said vessels, with one or more formulating ingredients selected from the group consisting of catalysts, ageing inhibitors (antioxidants), light stabilizers, UV absorbers and rheological additives,

- b) conveying the polyol component and the isocyanate component via pumps through a mixing head or mixing tube of a multi-component mixing and metering unit, to mix them to form a reactive polyurethane composition,
- c) applying the reactive polyurethane composition to a backing material,
- d) passing the backing material coated with the reactive polyurethane composition applied thereto through a heating tunnel to cure the polyurethane composition to form a pressure-sensitive adhesive,
- e) winding the backing material with the pressure-sensitive adhesive thereon up in a winding station.

Claim 8 (previously presented). Process according to claim 7 wherein the preparation takes place without solvent.

Claim 9 (previously presented). Process according to claim 7, wherein the preparation takes place without addition of water.

Claim 10 (previously presented). A self-adhesive article comprising the pressure-sensitive adhesive of claim 1.

Claim 11 (previously presented). Method for the redetachable fastening without damage or residue of articles having sensitive surfaces, made from polar plastic, glass or metal which comprises fastening said articles with the pressure-sensitive adhesive of claim 1.

Claim 12 (previously presented). The pressure-sensitive adhesive of claim 1, wherein said ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component is between 0.2 and 5.

Claim 13 (previously presented). The pressure-sensitive adhesive of claim 1, wherein said ratio of the number of isocyanate groups to the total number of hydroxyl groups is between 0.95 and 1.05.

Claim 14 (previously presented). The pressure-sensitive adhesive of claim 1, wherein said ratio of the number of isocyanate groups to the total number of hydroxyl groups is between 1.0 and 1.05.

Claim 15 (previously presented). The pressure-sensitive adhesive of claim 1, wherein said molecular weight of said triols which are combined with said diols having a molecular weight of less than or equal to 1000 is equal to or greater than 3000.

Claim 16 (previously presented). The pressure-sensitive adhesive of claim 2, wherein said diisocyanates are diisocyanates having asymmetrical molecular structures.

Claim 17 (previously presented). The pressure-sensitive adhesive of claim 3, wherein said polyisocyanate is isophorone diisocyanate.

Claim 18 (previously presented). The process of Claim 7, wherein said backing material to which said reactive polyurethane composition is applied is moving at constant speed during said application.

Claim 19 (previously presented). The method of claim 11, wherein said articles are selected from the group consisting of magazines, newspapers, books and letters